

REMARKS

Claims 1-23 were pending. By this Amendment, claims 21-23 have been canceled, without acquiescence in cited basis for rejection or prejudice to pursue in a related application. No new matter has been added.

Interview Summary

Applicant gratefully thanks the Examiner for granting a telephone interview on September 12, 2007. Claims 1, 6, 7, 11 and 21 and prior art reference Masatake were discussed. Clarification of the rejection was provided by the Examiner. Examiner suggested that the claims including the dependent claims are too broad and include no allowable subject matter. No agreement was reached regarding any amendments.

Claim Rejections Under 35 U.S.C. §101

Claims 21-23 were rejected under 35 U.S.C. §101 for including non-statutory subject matter because they include carrier signals. In response, these claims have been canceled without acquiescence in cited basis for rejection or prejudice to pursue in a related application. Thus, Applicant respectfully requests withdrawal of the rejection.

Claim Rejections Under 35 U.S.C. §112

Claims 21-23 were rejected under 35 U.S.C. §112, first paragraph, for failing to comply with the enablement requirement. Specifically, the Office Action states that the specification does not disclose any computer readable medium or suggest/define which type of medium. In response, these claims have been canceled without acquiescence in cited basis for rejection or prejudice to pursue in a related application. Thus, Applicant respectfully requests withdrawal of the rejection.

Claim Rejections Under 35 U.S.C. §102

Claims 1-5, 11-15 and 21-23 were rejected under 35 U.S.C. §102(a) as anticipated by Masatake (JP 2003-202362).

Applicant respectfully traverses.

Independent claim 1 recites the following limitations:

scanning a first test data from an input pin into a first scan chain during a first state of a clock cycle; and

scanning a second test data from the input pin into a second scan chain during a second state of the clock cycle;
wherein a clock signal of the clock cycle is directly input to the first scan chain and the second scan chain during testing.

Applicant respectfully submits that Masatake does not disclose or suggest at least the feature of directly input of the present claims.

In the Office Action of June 8, 2007, it states that Masatake anticipates the claims because Fig. 3 of applicant's drawing shows the clock signal is not directly input into the scan chain. Furthermore, the Office Action states that Masatake is functionally equivalent to Fig. 3. Applicant respectfully traverses.

Most importantly, the Office Action fails to show that Masatake has the feature of directly input as claimed. The Office Action merely compares Masatake to Fig. 3 of applicant's specification. A proper rejection would require Masatake to disclose every limitation of the claimed invention. Thus, this rejection is improper.

Fig. 3 is merely an example of an embodiment of the claims. It is improper to reject all the claims based solely on Fig. 3. For example, Fig. 2 of the originally filed drawing and specification includes two scan chains, chain-A and chain-B. Neither of these scan chains has a clock signal that is not directly input. Specifically, the clock signal does not go through an inverting stage as stated in the Office Action.

Moreover, the office action is incorrect to interpret Fig. 3 as showing the clock NOT directly inputted to the scan chain. As explained in paragraph 22 of the original specification, in an embodiment, the inverting stage of each flip flop is part of the negative edge-triggered flip flop structure of the scan chain. These negative edge-triggered flip flops make up the scan chain. Thus, the inverting stage pointed out by the Office Action is also part of the scan chain. Therefore, the clock is directly inputted to both scan chains as claimed.

Masatake does not anticipate the claimed invention because Masatake fails to disclose a clock signal that is directly inputted to the scan chains. Because Masatake does not anticipate the claimed invention, the rejection should be withdrawn.

In addition, the Office Action states that Masatake and the claimed invention are functionally equivalent. It is improper to assert that a reference anticipates the claims merely because they perform the same function. The invention is not claiming the function of the circuit but the structure

including the way the clock signal is directly input. Masatake does not directly input any clock signal to the scan chains. The structure of the present claims is clearly different than the circuit structures disclosed by Masatake. Thus, regardless of whether they are functionally equivalent, Masatake does not anticipate the claimed invention because anticipation requires the disclosure of every claimed limitation not just an equivalent function of the whole circuit. Thus, Masatake does not anticipate the claimed invention and this rejection should be withdrawn.

In conclusion, the present claims recite that the clock signal is directly input to the first scan chain and the second scan chain during testing, which is supported by the originally filed specification. Masatake does not disclose or even suggest this feature of the present claims, which is explained in detail in the response filed December 20, 2006.

For at least these reasons, it is respectfully submitted that independent claim 1 is not anticipated by the cited Masatake reference.

For at least these same reasons, it is respectfully submitted that independent claims 11 and 21, as amended, are likewise not anticipated by this reference.

Since the remaining claims respectively depend from these independent claims, these dependent claims are considered allowable over this reference for at least the same reasons as discussed above.

Claim Rejections Under 35 U.S.C. §103

Claims 8 and 18 were rejected under 35 U.S.C. §103(a) as unpatentable over Masatake (JP 2003-202362).

Claims 6, 9, 16 and 19 were rejected under 35 U.S.C. §103(a) as unpatentable over Masatake in view of Jaramillo ("10 Tips for Successful Scan Design", 2/17/2000).

Claims 7, 10, 17 and 20 were rejected under 35 U.S.C. §103(a) as unpatentable over Masatake in view of Jaramillo and Morton (US 2004/0078741).

However, Applicant respectfully traverses these rejections under 35 U.S.C. §103(a) for at least the reasons as set forth above in response to the 35 U.S.C. §102(a) rejections.

Since claims 6-10 and 16-20 respectively depend from independent claims 1, 11 and 21, these dependent claims are considered allowable over the cited references for at least the same reasons as discussed above and/or for at least their dependence on the independent claims.

CONCLUSION

Based on the foregoing, all claims are believed allowable, and an allowance of the claims is respectfully requested. If the Examiner has any questions or comments, the Examiner is respectfully requested to contact the undersigned at the number listed below.

The Commissioner is authorized to charge any fees due in connection with the filing of this document to Bingham McCutchen's Deposit Account No. 50-4047, referencing billing number **7035962001**. The Commissioner is authorized to credit any overpayment or to charge any underpayment to Bingham McCutchen's Deposit Account No. 50-4047, referencing billing number **7035962001**.

Respectfully submitted,
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